

## Feasibility, adherence, and effectiveness of the group treatment model for pupils with physical disabilities studying in regular education - a pilot study

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### Abstract

**Background and Objective:** Physiotherapy treatments for children and adolescents with physical disabilities are essential for promoting motor advancement and a healthy lifestyle. In Israel, individualized physiotherapy support is provided to pupils with physical disabilities who are integrated into regular settings under the responsibility of the Municipal Regional Support Center (Matya), an institution under the Ministry of Education. Recent studies have demonstrated the highly beneficial effects of participation in group sports activities in this population, even compared with individual treatments. In light of a steep increase in the number of pupils requiring individualized physiotherapy within Matya Ashkelon, a program of group physiotherapy was developed as an alternative to the conventional individual treatment provided until then. The program operated for about a year to address the needs of pupils with physical disabilities in educational settings in the Ashkelon area. This study aimed to examine the feasibility, adherence, and effectiveness of the group physiotherapy treatment model.

**Methods:** A pilot study conducted in 2023-2024 included 18 pupils with physical disabilities integrated into regular education settings. The pupils were divided into six groups, and each group was assigned a total of 25 treatment sessions -

one session per week. The treatment included aerobic warm-up, strength training, improvement of cardiorespiratory endurance, balance, and coordination. At the beginning and end of the program, participants were evaluated using standardized tests that assess function (Gross Motor Function Measure-GMFM), cardiorespiratory endurance (6 Minute Walk Test-6MWT), and balance (Bobo Balance Test).

### Results:

**Feasibility:** Group treatment at a single central facility was shown to be feasible and practical. The program made it possible to provide treatment to a larger number of eligible pupils-from 33% in the year prior to the pilot study to 50% in the study year, and to 64% in the year following the study. Moreover, the quality of treatment improved thanks to advanced equipment purchased for the treatment center. In addition, pupils enjoyed afternoon meetings with a peer group, and 95% of them asked to continue participating in this treatment program in the following year.

**Treatment adherence:** 12 out of 18 pupils (67%) participated in more than 20 sessions during the year; six pupils attended only a few sessions or withdrew.

**Effectiveness:** It should be emphasized that this was a pilot study that examined each pupil's personal progress and did not involve group comparisons or statistical inference. Nevertheless, it was found that 80% of the pupils improved their GMFM score; 87% of the pupils showed an increase in balance capacity according to the Bobo device; and 87% showed improvement in cardiorespiratory endurance according to the 6MWT.

**Additional impacts:** Two pupils enrolled in community sports programs; assistance hours at school were reduced for three pupils; and one pupil began working.

**Conclusions:** The study demonstrated that the group physiotherapy treatment model is feasible, effective, and in demand. The model enables service provision to a larger number of eligible pupils while maintaining treatment quality and improving function. In addition, group treatment provides a unique social experience of a peer group for pupils with physical disabilities; due to its success and the high satisfaction of pupils and their parents, the program was subsequently expanded.

**Keywords:** physiotherapy, group treatment, physical disability, cerebral palsy, special education, Matya